THE CITY OF NEW YORK

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

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2009 New York City Department of Health and Mental Hygiene (NYC DOHMH) Health Alert #12: Swine Influenza Update

Please distribute to staff in the Departments of Critical Care, Emergency Medicine, Family Practice, Geriatrics, Internal Medicine, Infectious Disease, Infection Control, Pediatrics, Neonatal Units, Nurseries, Pulmonary Medicine and Laboratory Medicine

April 26, 2009

PLEASE NOTE: This is a rapidly evolving situation. This alert provides interim guidance. Guidance is likely to change in the upcoming days and weeks as more information becomes available.

- **Swine influenza has been confirmed as the cause of a large outbreak of influenza A at St. Francis Preparatory High School in Queens. Specimens obtained from students at the school have been confirmed as swine influenza A, subtype H1N1 at the Centers for Disease Control and Prevention (CDC). This meets the case definition for confirmed swine influenza (see http://cdc.gov/swineflu/casedef_swineflu.htm)**
    - To date, all illnesses appear to have been mild.
    - At this time, we are recommending antiviral treatment with oseltamivir or zanamavir as follows for persons associated with the high school:
        - Any hospitalized patient with fever and severe, unexplained respiratory illness (e.g., pneumonia, ARDS or respiratory distress) in a student, teacher, staff, or any close contact (e.g., household) of someone who attends or works at the school.
        - For patients with mild illness, treatment is only strongly recommended for people who also have underlying conditions that increase the risk for more severe illness due to influenza (listed below). For patients with mild illness who do not have underlying conditions, antiviral treatment can be offered.
        - Mild illness should only be treated if treatment can be started within 48 hours of symptom onset.
    - At this time, prophylaxis is only being recommended for the following contacts of ill persons associated with the high school:
        - Healthcare workers who provided care to ill patients, and who either were not using or had a breach in appropriate personal protection when caring for patients or obtaining specimens (see below for infection control guidance)
        - Asymptomatic household and other close contacts of ill persons who are at higher risk for complications of influenza (listed below).
- **Reporting and management of other NYC hospitalized patients with severe, unexplained febrile, respiratory illness:**
    - Immediately report all patients with severe, unexplained febrile respiratory illness (e.g., pneumonia, acute respiratory distress syndrome, respiratory distress) to the Provider Access Line at 1-917-438-9766.
    - Test patients with severe febrile respiratory illness for influenza A using a commercially available rapid test, PCR or immunofluorescence test (e.g., DFA or IFA). If hospitals

are not able to conduct initial rapid influenza testing, please contact the DOHMH to arrange for testing for influenza A.
    - Personal protective measures should be taken by medical personnel caring for or obtaining specimens from patients being tested for influenza or who have suspected, probable or confirmed swine influenza. See http://www.cdc.gov/swineflu/guidelines_infection_control.htm.
- **Management of patients with mild influenza-like illness in New York City**
    - DOHMH requests that providers ask all patients presenting with mild influenza-like illness (ILI) whether during the 7 days prior to onset of illness they have traveled to Mexico, had close contact with a patient with confirmed swine influenza or had close contact with an ill person associated with the St. Francis Preparatory High School. If they have had one of these epidemiologic risk factors for swine influenza, they should be encouraged to stay home for 7 days after onset of symptoms, or until 24-48 hours after resolution of symptoms, whichever is longer.
    - All patients with ILI, regardless of risk factors for swine influenza, should be instructed to stay home until their symptoms are resolved, wash their hands frequently, especially after coughing or sneezing, cough into a tissue (not into bare hands or onto another person), and dispose of tissues in the trash.
    - At this time, we are not recommending influenza testing for persons with mild ILI.
    - For patients with mild illness, treatment is only strongly recommended for people who also have underlying conditions that increase the risk for more severe illness due to influenza (listed below). For patients with mild illness who do not have underlying conditions, antiviral treatment can be offered.
    - Mild illness should only be treated if treatment can be started within 48 hours of symptom onset.
- **According to the CDC, vaccination for seasonal influenza is unlikely to be effective for prevention of swine influenza.**
- **Additional information on the outbreaks in the US and Mexico, including NYC, as well as further clinical guidance will be provided as it becomes available. For updated information on the national situation, see http://www.cdc.gov/swineflu/general_info.htm.**

Dear Colleagues,

Testing at the CDC on April 26, 2009 has confirmed that an outbreak of influenza at the St. Francis Preparatory High School in Queens is due to swine influenza (H1N1). The DOHMH is actively investigating this outbreak and to date, all illnesses associated with the school appear to be mild.

As of April 26, 2009, the CDC has reported 20 laboratory confirmed human cases of swine influenza A/H1N1 (8 in New York, 7 in California, 2 in Texas, 2 in Kansas and 1 in Ohio). All 20 case patients have had mild influenza-like illness with only one requiring brief hospitalization. No deaths have been reported. All 20 viruses have the same genetic pattern based on preliminary testing. The virus is being described as a new subtype of A/H1N1 not previously detected in swine or humans. Isolates from California and Texas have been found to be susceptible to the neuraminidase inhibitors (oseltamivir and zanamavir) but resistant to the adamantanes (amantadine and rimantadine). As of April 26, 2009, the Government of Mexico has reported 18 laboratory confirmed cases of swine influenza A/H1N1. Investigation is continuing to clarify the spread and severity of the disease in Mexico. Suspect clinical cases have been reported in 19 of the country's 32 states, including thousands of cases and approximately 80 deaths. Canada has confirmed four cases of swine flu at a school in Nova Scotia.

The symptoms of swine influenza cases in the United States to date have been similar to routine seasonal influenza; they include fever, cough, sore throat, headache, chills, myalgias and fatigue. The incubation period is unknown at this time, but is likely similar to seasonal influenza (1-7 days). Patients with swine

influenza are considered infectious for 7 days following the onset of symptoms, and viral shedding may be prolonged in children.

Surveillance for Swine Influenza in Hospitalized Cases Citywide
In order to determine whether the swine influenza virus is causing severe illness in New York City, DOHMH is focusing its surveillance efforts on hospitalized patients with severe illness. DOHMH requests that providers immediately report any patient with severe unexplained febrile respiratory illness (e.g., pneumonia, ARDS, or respiratory distress). Contact information for DOHMH is provided below. These patients should be tested for influenza using either a commercial rapid test, or direct or indirect immunofluorescence. DOHMH will arrange for transportation of clinical specimens to the Public Health Laboratory for additional testing for swine influenza. See attached instructions for collecting and submitting laboratory diagnostic specimens for swine influenza testing. Nasopharyngeal swabs are the preferred specimens for influenza testing in the current swine influenza context. Please note that strict personal protective measures should be taken when obtaining specimens, or providing patient care, including the donning of an N-95 mask and placement of the patient in an airborne infection isolation room (AIIR), or if not available, a single room with a closed door.

Treatment of Persons with Severe Febrile Unexplained Respiratory Illness (e.g., ARDS, pneumonia or respiratory distress)
Patients with severe febrile unexplained respiratory illness should be empirically treated for swine influenza, and for seasonal influenza, using either zanamavir alone, or oseltamivir and rimantadine. See http://www.cdc.gov/swineflu/recommendations.htm for specific guidelines. See below for infection control recommendations.

Management of Persons with Mild Influenza-like Illness
At this time, providers assessing patients with mild febrile respiratory illness in clinical settings, including emergency departments, should not test for influenza and should not administer antiviral medications for presumptive therapy, *unless* patients meet the usual criteria for empiric influenza treatment based on underlying illnesses (listed below) that put them at higher risk for complications of any type of influenza. If these patients have an epidemiologic risk factor for swine influenza, including travel to Mexico, close contact with a confirmed case of swine influenza or close contact with an ill person associated with St. Francis Preparatory High School they should be sent home with instructions to stay at home for 7 days after onset of symptoms, or until 24-48 hours after their symptoms resolve, whichever is later, and instructed on the importance of hand and respiratory hygiene. Instructions should be given to seek medical care with worsening of symptoms (see signs of worsening illness below).

Management of Persons with Mild Influenza-like Illness and Underlying Conditions that Increase the Risk of Severe Influenza Infection

Patients with mild ILI and underlying conditions placing them at higher risk for severe illness should be treated empirically for influenza. See http://www.cdc.gov/swineflu/recommendations.htm for specific guidelines. No specific testing for influenza is recommended. These patients may be sent home with instructions to stay at home for 7 days after onset of symptoms, or until 24-48 hours after their symptoms resolve, whichever is later, and instructed on the importance of hand and respiratory hygiene. Instructions should be given to seek medical care with worsening of symptoms.

These conditions include chronic pulmonary, cardiovascular, renal, hepatic, hematological or metabolic disorders, immunosuppression, compromised respiratory function, including conditions which increase the risk for aspiration, long-term aspirin therapy, pregnancy, age $\geq$ 65 years, and age < 2 years.

Infection Control

Medical facilities should institute their screening and isolation protocol. Signs should be posted asking patients with fever and cough or sore throat to see the triage nurse immediately.

Patients coming to the facility with ILI should make their symptoms known to medical staff upon entry. Medical staff should be prepared to provide barrier protection (e.g., surgical or face mask, tissues) to patients with ILI and encourage hand hygiene and respiratory etiquette. Initial triage questions should include a) symptoms and b) epidemiological risk factors of travel history to Mexico, close contact with a suspected or confirmed case within the last 10 days, or close contact with an ill person associated with the St. Francis Preparatory School. These risk factors may change depending on the evolving epidemiology of the outbreak.

For infection control purposes in New York City, a <u>suspected</u> case of swine influenza is defined as any patient with influenza-like illness and an epidemiologic risk factor as described above.

Outpatient medical providers who are referring suspected, probable or confirmed cases to emergency departments or other medical facilities should alert the facility that the patient is arriving, and have the patient don a mask while waiting, being registered and being triaged for care.

If the patient has ILI and an epidemiological risk factor, the patient should be placed in an airborne infection isolation room (AIIR) or in a separate single examination room with the door closed to await medical exam. If this is not possible, patient should be masked and encouraged to sit at least 3 feet from other patients in the waiting area.

Medical providers examining the patient should wear N-95 respirators during the patient encounter.

Infection control measures for suspected (using NYC-specific case definition supplied above), probable or confirmed cases in health care facilities

- Medical providers who are referring suspected, probable or confirmed cases to emergency departments or other medical facilities should alert the facility that the patient is arriving, and have the patient don a mask while waiting, being registered and being triaged for care.
- Patients with suspected or confirmed case-status should be placed in an AIIR or in a single-patient room with the door kept closed.
- Standard, droplet and contact precautions should be used for all patient care activities and maintained for 7 days after illness onset or until symptoms have resolved.
- Patients should wear surgical masks when outside the patient room. Frequent hand hygiene and respiratory etiquette should be maintained.
- Cups and other utensils used by the patient should be washed with soap and water before use by other persons. Routine cleaning and disinfection strategies used during seasonal influenza seasons can be applied to the environmental management of swine influenza.
- More information can be found at: http://www.cdc.gov/ncidod/dhqp/gl_environinfection.html

Infection control measures for healthcare personnel

- Recommendations for masks and respirators should follow the interim recommendations as proposed for pandemic influenza. These recommendations may change over the course of this outbreak as it is further characterized:
    1. Personnel engaged in any aerosol generating activities (e.g,., collection of clinical specimens, endotracheal intubation, nebulizer treatment, bronchoscopy, and resuscitation

involving emergency intubation or cardiac pulmonary resuscitation) for suspected or confirmed swine influenza cases should wear a fit tested disposable N-95 respirator.
2. Pending clarification of transmission patterns for this virus, personnel providing direct patient care for suspected or confirmed swine influenza cases should wear a fit-tested disposable N-95 respirator when entering the patient room.

- Personnel providing care to or collecting clinical specimens from suspected or confirmed cases should wear disposable non-sterile gloves, gowns, and eye protection.
- Strict adherence to hand hygiene with soap and water or with alcohol hand sanitizers should be maintained.
- Please review the guidance in the October 2006 "Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Healthcare Settings during an Influenza Pandemic" http://www.pandemicflu.gov/plan/healthcare/maskguidancehc.html

More recommendations on infection control in medical facilities can be found at:
http://www.cdc.gov/swineflu/guidelines_infection_control.htm

Antiviral Prophylaxis Guidelines
Currently, DOHMH is recommending antiviral prophylaxis for the following persons:

- Healthcare workers who provided care to ill patients, and who either were not using or had a breach in appropriate personal protection when caring for or obtaining specimens from patients with influenza like-illness who are associated with St. Francis Preparatory High School (see above for infection control guidance)
- Asymptomatic household and other close contacts of ill persons associated with St. Francis Preparatory High School who are at higher risk for complications of influenza (listed below).

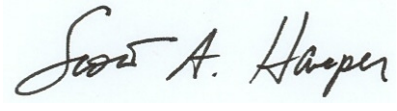
The Health Department requests that providers also immediately report any clusters of influenza-like illness in medical facilities, congregate settings such as long-term care facilities, or schools.

Additional resources:
*CDC Swine Influenza Page - http://www.cdc.gov/swineflu/
CDC Health Advisory - http://www.cdc.gov/swineflu/pdf/HAN_042509.pdf
NYC DOHMH Swine Flu Information - http://www.nyc.gov/html/doh/html/cd/cd-swineflu.shtml
*NYC DOHMH Home Page - http://www.nyc.gov/html/doh/html/home/home.shtml
New York State Swine Flu Resources -
http://www.nyhealth.gov/diseases/communicable/influenza/seasonal/swine_flu/index.htm

To contact the Health Department, including to report suspected cases of swine influenza in hospitalized patients and arrange for specimen testing, please call the Provider Access Line at 1- 917-438-9766. This number is also available for questions or consultations by providers.

As always, we appreciate the cooperation of the medical community in New York City and will update you with further information when it becomes available.

Sincerely,



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Case Definitions for Infection with Swine Influenza A (H1N1) Virus

1. A Confirmed case of swine influenza A (H1N1) virus infection is defined as a person with an acute respiratory illness with laboratory confirmed swine influenza A (H1N1) virus infection at CDC by one or more of the following tests:
    1. real-time RT-PCR
    2. viral culture
    3. four-fold rise in swine influenza A (H1N1) virus specific neutralizing antibodies

2. A Probable case of swine influenza A (H1N1) virus infection is defined as a person with an acute respiratory illness with an influenza test that is positive for influenza A, but H1 and H3 negative.

3. A Suspected case of swine influenza A (H1N1) virus infection is defined as:
    1. A person with an acute respiratory illness who was a close contact to a confirmed case of swine influenza A (H1N1) virus infection while the case was ill **OR**
    2. A person with an acute respiratory illness with a recent history of contact with an animal with confirmed or suspected swine influenza A (H1N1) virus infection **OR**
    3. A person with an acute respiratory illness who has traveled to an area where there are confirmed cases of swine influenza A (H1N1)

Conditions which increase the risk of severe influenza infection

- chronic pulmonary, cardiovascular, renal, hepatic, hematological, or metabolic disorders,
- immunosuppression,
- compromised respiratory function, including conditions which increase the risk for aspiration,
- long-term aspirin therapy
- pregnancy
- age $\geq$ 65 years
- age $<$ 2 years

Signs and symptoms of worsening illness

In children emergency warning signs that need urgent medical attention include:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough
- Fever with a rash

In adults, emergency warning signs that need urgent medical attention include:

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting